Informing Methods for Preparing Public Health Overviews of Reviews: A Comparison of Public Health Overviews with Cochrane Overviews Published Between 1999 and 2014

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Background:

Overviews of systematic reviews of public health interventions serve the purpose of synthesizing evidence from a number of systematic reviews (SRs) into a single convenient source used to inform policy and practice. The Cochrane approach to overviews has largely been applied to synthesizing clinical research. For those such as the Cochrane Public Health Group, utilizing the core methodology of the Cochrane approach is beneficial for conducting public health overviews; however, tailoring the methods to the area of public health will likely occur and this development can be informed by investigation of various approaches and recommendations from other content areas[1].

Objectives:

To describe and compare the current methodological approaches in overviews of interventions in public health reviews and Cochrane reviews.

Methods:

A descriptive analysis of overviews published between 1999 and 2014 was conducted. We searched the Cochrane Database of Systematic Reviews (for Cochrane protocols for overviews and Cochrane overviews), and the Health Evidence™ Registry[2] for public health overviews; we included public health overviews rated as "Strong" (score 8 to 10) and "Moderate" (score 5 to 7) by Health Evidence™. The primary characteristics (e.g. search strategy, search dates etc.) of the overviews and elements of the methodology were extracted and compared.

Results:

From 3,761 citations, 63 articles satisfied the inclusion criteria for overviews [Cochrane = 14, non-Cochrane Public Health (NCPH) = 27] and an additional 22 Cochrane Protocols of overviews. The Cochrane articles were primarily clinical in nature and none pertained to public health. Overall, Cochrane overviews included later (more recent) SRs, whilst NCPH included earlier SRs. Accommodating for population level interventions, public health overview reviews typically accepted a lower level of evidence (Table 1). AMSTAR (a measurement tool to assess systematic reviews)[3] was typically used to assess the quality of included reviews for Cochrane overviews; but rarely used in NCPH overviews (Figure 1). GRADE (a tool to grade the quality of Evidence and strength of recommendations)[4], or a variant was used in over half of Cochrane overviews and protocols (Figure 2). Cochrane overviews were more restrictive in the inclusion criteria and searched fewer databases (Figure 3).

Table 1. Levels of evidence permitted for inclusion in overviews

Level of Evidence	Protocols (%)	Cochrane Overviews (%)	NCPH* Overviews (%)
1	48	73	11
2	29	20	44
3	5	7	33
Not Specified	19	0	11

Note: *Non-Cochrane Public Health.

Figure 1. Tool used for assessing methodological quality of reviews

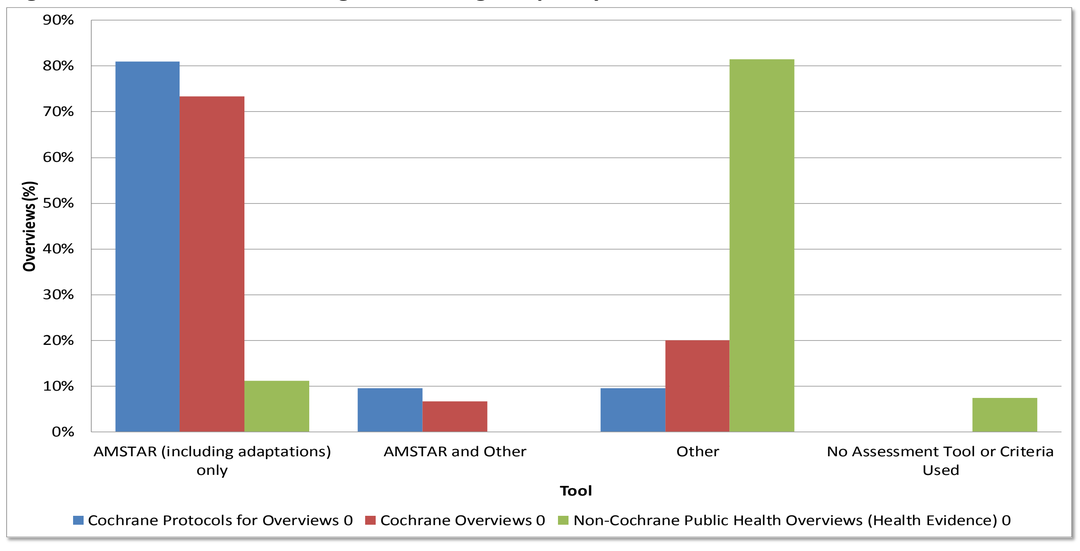


Figure 2. Tool used for assessing quality of evidence

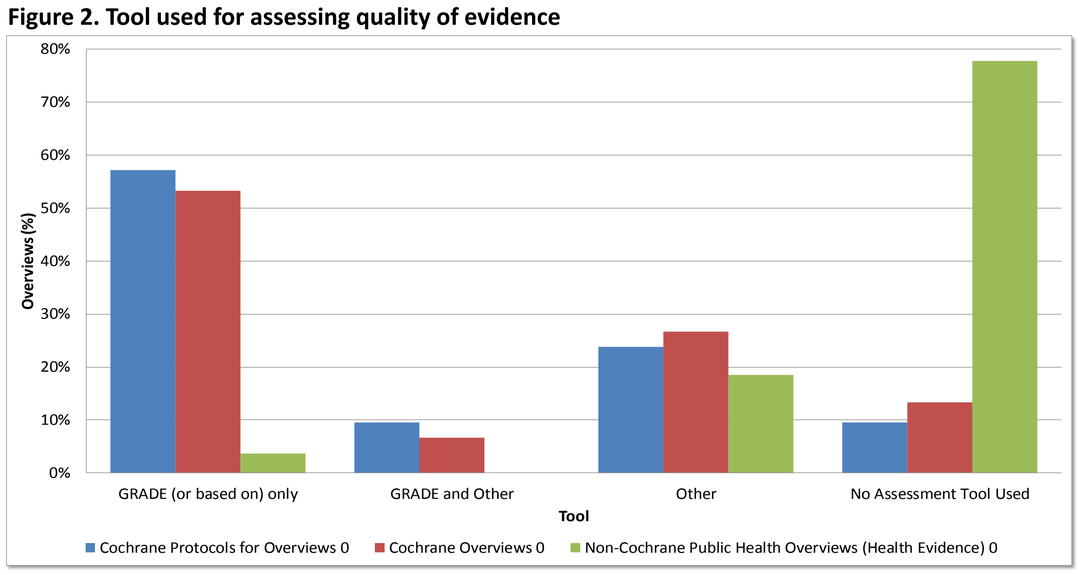
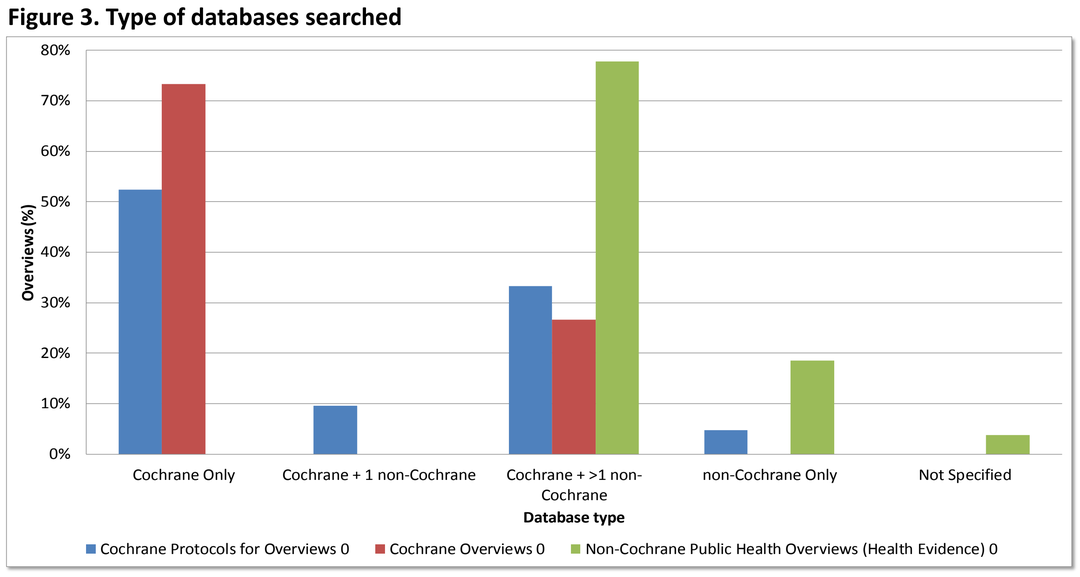


Figure 3. Type of databases searched



Conclusions:

The methodology in Cochrane overviews and NCPH overviews varies widely. A degree of differences in NCPH reviews reflect a lower level of methodological rigor than Cochrane reviews. Therefore, future public health overviews may benefit from the Cochrane methodology; however, the Cochrane approach to overviews may require modification to accommodate the methods used in public health research. Additionally, the use of databases such as the Health Evidence™ Registry of Reviews that pre-screen and quality assess relevant PH systematic reviews may help expedite the search process for PH overview compilation.

References

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4. The GRADE Working Group. (2014). *Grading the quality of evidence and the strength of recommendations*, from http://www.gradeworkinggroup.org/intro.htm